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AMERICAN BEE JOURNAL

46th Year

CHICAGO, ILL., FEB. 8, 1906

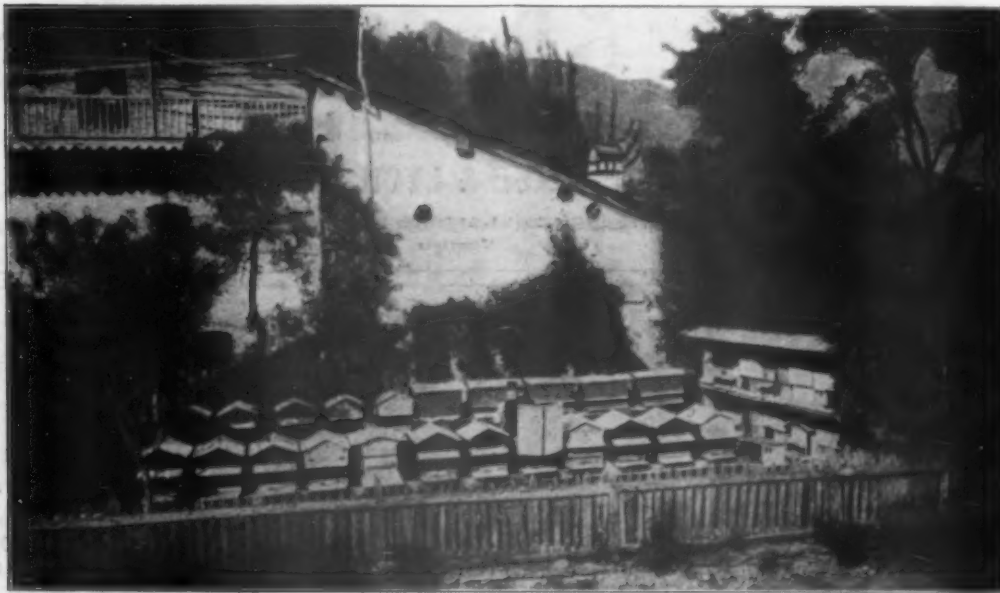
No. 6



Gathering a Swarm from Mr. Mont-Jovet's
Alpine Apiary.



Opening a Dadant Hive in Mr. Mont-Jovet's
Alpine Apiary.



Apiary of Dadant Hives belonging to Mr. Mont-Jovet, in the Alps; altitude, 3300 feet.
(See page 118.)



PUBLISHED WEEKLY BY

GEORGE W. YORK & COMPANY

334 Dearborn Street, Chicago, Ill.

IMPORTANT NOTICES

THE SUBSCRIPTION PRICE of this Journal is \$1.00 a year, in the United States, Canada, and Mexico; all other countries in the Postal Union, 50 cents a year extra for postage. Sample copy free.

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- 1st.—To promote the interests of its members.
- 2d.—To protect and defend its members in their lawful rights.
- 3d.—To enforce laws against the adulteration of honey.

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General Manager and Treasurer—
N. E. FRANCE, Platteville, Wis.

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(INCORPORATED)

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2. To publish facts about honey, and counteract misrepresentations of the same.

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1. Any bee-keeper may become a member by paying to the Manager an annual fee of \$1.00 for each 20 (or fraction of 20) colonies of bees (spring count) he owns or operates.

2. Any honey-dealer, bee-supply dealer, bee-supply manufacturer, bee-paper publisher, or any other firm or individual, may become a member on the annual payment of a fee of \$10, increased by one-fifth of one (1) percent of his or its capital used in the allied interests of bee-keeping.

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Extracted Honey for sale. Prices on application. Sample, 10c.

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BEESWAX ALWAYS WANTED

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Prices Always the Lowest

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IT EXCELS

EVERY INCH equal to sample

Beauty, Purity, Firmness.

No Sagging, No Loss.

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We Guarantee Satisfaction.

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BEE-SUPPLIES of all kinds.

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before you buy. Perfectly practical for poultrymen or beginners. Double heating system gives bigger hatches—saves one-third the oil. Sold on a money back guarantee. Write for free catalog. * Reliable Farm Pure-Bred Birds and Eggs. Get prices. Reliable Incubator and Brooder Co., Box B-155 Quincy, Illinois, U. S. A.



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—FOR HIS—

"Bee-Keeper's Guide."

Liberal Discounts to the Trade.

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The greatest household convenience ever invented. With aid of a match, candle or lamp you can mend leaky pans, kettles, boilers, etc., in a second and save both utensils and tinner's bills. Mends any hole up to 1/4 inch in tin, copper, brass, iron and enamel ware. Send 2 cents for package good for 100 mends. Money back if not satisfied. Pitts & St. John, 206 Schiller Bldg., Chicago

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Everything used by Bee-Keepers.
POUDER'S HONEY-JARS. Prompt Service.
Low Freight Rates. Catalog Free.

If you wish to purchase finest quality of **HONEY** for your local trade, write for my free monthly price-list of honey.

Why not secure your **BEE-SUPPLIES NOW** FOR NEXT SEASON'S USE, and avail yourself of the following very liberal discounts? Goods all Root Quality.

For cash orders before Feb. 1..6 percent For cash orders before Mar. 1..4 percent
For cash orders before Apr. 1..2 percent

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Free rose bush, due bill for 50c worth of free seeds, and a free packet of seed will be sent to all sending for our handsome new catalog. Send 10c to pay postage. A. A. BERRY SEED CO., BOX 40, CLARINDA, IOWA

Mention Bee Journal when writing.



WHAT OUR TRADE-MARK STANDS FOR

Experience

We have been at this business for over 40 years. This means a great deal. Not only are we intimate with every phase of bee-keeping, but we have an accumulation of knowledge that is invaluable. All these years we have been learning what the bee-keeper really wants, and how to supply it down to the smallest detail. That means the goods you get bearing Root's trade-mark are the very latest and best known to date. All of these advantages cost you nothing over standard prices.

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Our motto has always been, "Not how much, but how good." By making our goods the best we have naturally become the largest manufacturers of bee-supplies in the world. The lumber, the workmanship, everything that enters into our goods is the best, and has passed the most exacting tests to prove it so.

A Square Deal

We believe in treating our customers right. Best goods and promptness are our watch-words. Courteous treatment to our customers is demanded from our employees and agents. Your interests are ours. Your welfare means ours. A satisfied customer is our aim, and we only ask a chance to prove what we say.

Discount for January is 6 Percent.

TESTIMONIALS

We are always greatly pleased to see your new editions of your new catalog of Bee-Keepers' Supplies, etc. We shall certainly make ample mention of it in our paper. You are our best authority in regard to all matters of bee-keeping.

Yours very truly,

C. H. HOWARD, *Editor*,
Farm, Field & Fireside.

Dear Sirs:—The shipment of hives and bee-supplies which you sent me arrived in excellent condition, and every one who has seen them is delighted with the accuracy and precision of the workmanship of every detail, both of the goods and the manner in which the order was executed.

Yours very truly,

Cape Colony. **FREDERIC T. BIOLETTI.**

I have just now unpacked and examined the goods sent by you, and am greatly pleased with the lot.

Scottsville, Ariz.

W. H. GILL.

Gentlemen:—I am well pleased with your prompt way of doing business. The goods are just simply nice. Many thanks.

Yours truly,
JOHN D. A. FISHER.

I do not want anything set up, as I would rather set the hives up myself. Besides, it is a pleasure to put Root's hives and fixtures together.

Tiffin, Ohio.

JOHN L. FUNK.

Your promptness and square dealing indeed make it a pleasure to do business with you, and I thank you.

Buffalo, N. Y.

HARRY H. LARKIN,
Care Larkin Co.

My bill of bee-supplies reached its destination in due time. I am under obligations to you for the kindness, for a delay would have been a loss to me. Please accept my thanks.

Treadwell, Tenn.

W. W. WATERS, M. D.

I desire to thank you for being so prompt in sending the sections I ordered from you. They came in less time than it takes to tell it.

Kent, Ohio.

L. G. REED.

The consignment of bee-material received to-day. Your promptness in filling orders is remarkable, especially when the circumstances are considered. I am very well satisfied with the goods and your dealing. I take pleasure in having introduced "ROOT'S GOODS" into this neighborhood.

Fredericksburg, Iowa.

REV. WM. ENGLE.

Our Catalog for 1906 is ready. Write for a copy.

THE A. I. ROOT COMPANY, MEDINA, OHIO.

BRANCHES: 144 E. Erie St., Chicago.

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AMERICAN BEE JOURNAL.

ESTABLISHED IN 1861 OLDEST BEE PAPER IN AMERICA

DEVOTED EXCLUSIVELY TO THE INTERESTS OF HONEY-PRODUCERS

(Entered at the Post-Office at Chicago as Second-Class Mail-Matter.)

Published Weekly at \$1.00 a Year, by George W. York & Co., 334 Dearborn St.

GEORGE W. YORK, Editor

CHICAGO, ILL., FEBRUARY 8, 1906

Vol XLVI—No. 6



Editorial Notes and Comments

Repetition of Good Advice

Good advice can hardly be repeated too often. The winter is the time to read over again the bee-papers of the preceding year. In the hurry of the busy season many good things that appeared in the bee-papers were likely overlooked. But now is just the time to get the papers together and go over them carefully. It will pay to do so.

Some bee-keepers we have heard of say they haven't time to read bee-papers. Then they haven't time to keep bees, either. One doesn't need to spend more than say two hours a week in reading the American Bee Journal. There are probably very few who read *all* of any one paper whenever it comes. But if an hour or two is spent on each copy, the best and most helpful of its contents can be gleaned.

The great trouble with many is, they haven't learned to do thoroughly what they undertake. They do things by halves, or do only half of several things. It won't do to read a good bee-paper in a half-hearted or listless way, if one expects to profit by the reading. We are inclined to think that the reason some do not value a good bee-paper is because they don't read it carefully, and then profit by what they have learned. Simply subscribing for the paper will not add any honey to your crop. But by painstaking reading, and careful application of the instruction gained, there may result a surprising increase in both profit and pleasure from the bees.

Inbreeding Among Bees

Continued inbreeding has been blamed for the "running out" of many an apiary—and rightly. On the other hand, some of the most noted achievements in the way of improvement of stock have been made by means of that same inbreeding. Do not be too much alarmed about inbreeding, if you always breed from the best; but do not be surprised at deterioration if the selection is left to the bees.

Alfalfa Hay and Honey in Colorado

Irrigation gives the agricultural products of Colorado for 1905 as \$46,990,000. A little more than a third of this is for hay. As a large part of the hay is from alfalfa, it does not seem strange that Colorado should produce quite a bit of alfalfa honey.

"Advanced Bee Culture," by W. Z. Hutchinson

A new edition of this work has appeared, so much enlarged and improved that without any great stretch it might be called a new book. Its author has given in it the results of his own study and experience as a bee-keeper, enriched by many a thought gleaned from his years of editing the Bee-Keepers' Review.

Mr. Hutchinson is an enthusiast in matters pertaining to beautiful typography, and the book shows it. Its 230 pages are printed in clear type upon excellent paper, daintily bound in cloth. Photography is a hobby with Mr. Hutchinson, so it is not at all surprising that the more than 70 illustrations are mostly half-tone engravings from photographs taken by the author himself, and of some of them he may well be proud.

The book is written in Mr. Hutchinson's well-known easy style, and is practical throughout, the author declaring it to have been his purpose to describe in plain and simple language what he believes to be the most advanced methods of managing bees *for profit*, from the beginning of the season throughout the entire year.

Mr. Hutchinson is the arch apostle of "keeping more bees," and so the first chapter starts out with a plea for bee-keeping as a specialty, "dropping all other hampering pursuits, and turning the whole capital, time and energies into bee-keeping."

He was at one time an enthusiastic advocate of the Heddon hive, but now says: "Divisible brood-chamber hives cost considerably more than any other styles of hives, and after using them for years by the side of the ordinary Langstroth hive, seeing them used by other persons in different locations, and considering the new features that have recently sprung up in bee-keeping, I have gradually come to the decision that if I were now starting in the bee-business, I should not use the horizontally-divisible hive;" and closes the chapter on the choice of a hive by saying, "In brief, my choice of a hive for Michigan is a simple, plain box with plain, all-wood hanging frames—and I would winter the bees in the cellar."

The author favors the use of the Heddon honey-board, and says: "There have been more or less successful attempts to do away with the necessity for a honey-board by using wide, deep top-bars, *accurately spaced*; and while such an arrangement does away with a large share of the bur-comb nuisance, I have yet to see a case in which there was not enough of it left to warrant the use of a honey-board." This sounds a bit strange in view of the fact that so many others have discarded the honey-board, but the preceding paragraph explains it. In that he gives $\frac{3}{4}$ of an inch as the space over the tops of the frames, and no matter

how accurate the spacing, there will be comb galore built and honey stored in it. Others have reduced that space to $\frac{1}{4}$ inch, and do not find the honey-board necessary.

As to surplus arrangements for comb honey, he says: "My preference is for a tall, plain, 4-piece section of white poplar, used with fence separators."

The chapter on "The Use and Abuse of Comb Foundation" is especially interesting, from the fact that the author has made a study of this and experimented largely. He thinks that under some circumstances comb foundation may be given in the brood-chamber at a loss in more ways than one.

As to swarming, he says: "The man who is raising comb honey as a business will find it to his advantage to allow each colony to swarm once, if it will (and no more), then make the most out of the swarm."

There was a time when Mr. Hutchinson might have been said to make a business of exhibiting at Fairs; so he may be said to speak with authority on that subject. The same may be said of the chapter on queen-rearing, and that on foul brood; for he made a business of rearing queens for sale, and he has for some time been inspector of foul brood for the State of Michigan.

The book may be heartily commended as an addition to the libraries of up-to-date bee-keepers. The postpaid price is \$1.20; but we club it with the American Bee Journal for a year—both for \$2.00. We have a good supply of the books on hand, and so can fill orders by return mail.

L'Apiculture Nouvelle

Mention was lately made of a new bee-paper printed in the German language, with the avowed purpose of advocating bee-keeping according to American methods. Now comes the initial number of L'Apiculture Nouvelle (The New Bee-Culture), printed in the French language, and published in Paris by Emile Bondonneau, the agent of the A. I. Root Co. It is even more strongly American than the German journal mentioned, being made up almost entirely of articles from Gleanings translated into French.

All of which is complimentary to the genius of American bee-keeping; but let us not forget that practise is based upon theory, and without the solid basis built up by patient investigators on the other side of the water, the superstructure of American bee-keeping never could have been reared. So it is only fair that we should pay back to our trans-Atlantic brethren part of the debt we owe them.

Metal-Spaced Hoffman Frames

A modified Hoffman frame (if indeed it can be called a Hoffman after being modified so many times) has been put upon the market. Many have strongly objected to the Hoffman because of the shoulders of the end-bars, which invite the deposition of propolis, and too often split off. Instead of being made as heretofore, $1\frac{3}{4}$ inches wide at the upper end, the end-bars are made 1-16 inches wide. Then a metal strap bent in the form of the letter U is slipped down over the top-bar, and extends down over the end-bar something like 3 inches. An embossed projection of 5-32 of an inch at the top, and another at the bottom of the strap on each side, serve to space the end-bars 5-16 of an inch apart, making the frames spaced $1\frac{3}{4}$ from center to center. This will be accepted as a great improvement by some, while some will think the same end might be attained by the simpler means of staples or nails as spacers.

Amerikanische Bienenzucht, by Hans Buschbauer, is a bee-keeper's hand-book of 138 pages, which is just what our German friends will want. It is fully illustrated, and neatly bound in cloth. Price, postpaid, \$1.00; or with the American Bee Journal one year—both for \$1.75. Address all orders to this office.



Miscellaneous News & Items

Bee-Keeping in the Alps.—Mr. C. P. Dadant has very kindly sent us the souvenir postal cards from which the engravings were made that appear on the first page this week. Mr. Mont-Jovet is a breeder of Caucasian queens, and a Dadant-hive bee-keeper. It is interesting to have apiarian scenes from foreign countries. Of course, it would be much nicer if each could personally visit apiaries in foreign countries, but when that can not be done, the next best thing is to have pictures of them. What a wonderful thing photography is, anyway; and also the process of engraving pictures, so that they can be reproduced with the printing press! Surely, we are living in an advanced age; great progress has been made along almost every line, bee-keeping not excepted.

To Illinois Bee-Keepers.—Secretary Jas. A. Stone sends this notice:

The Secretary has undertaken, through the instructions of the State Bee-Keepers' Association, to send out more than 2800 letters to bee-keepers of the State, and as he runs across the name of one who has paid his dues in the State Association—either direct or through one of the other associations that have joined in a body—he can not leave out such a name, for we desire their report, even if they have paid their dues. All who have paid their dues for 1906 are properly credited, and the Secretary positively can not answer the many questions personally that come back, asking, "Have you made a mistake?" etc. Those who joined through the other associations will each receive a cloth-bound copy of the Annual Report, the same as those who joined the State Association direct. But if the Secretary is compelled to spend all his time answering useless questions, the Report will not be out before midsummer.

Route 4, Springfield, Ill. JAS. A. STONE, Sec.

The Summerland of Florida is where Mr. Wm. A. Selsaer, of Philadelphia, is spending the winter. Here is what he says about the weather and the bees there:

Most of your readers do not know that Dade county is the most extreme southern county of Florida, situated on the East Coast, with the Atlantic Ocean on the one side, with the warm Gulf Stream running near its borders, and the Everglades encircling it on the west and south. In whatever direction the wind blows it comes over a warm body of water. The situation is most ideal for a warm, winter climate. In 1890 it was said to the writer that killing frost was unknown, but since that time there have been two or three years when the thermometer was below the freezing point. Last year, or in January, 1905, while I was in Boynton (this county), the thermometer one night sank to 28 degrees. Ice formed in a crust in the water-tub back of the house, and at 2 o'clock that same day I went into the Atlantic Ocean and had a good bath, with the water at 69 degrees—as warm as it often is in Atlantic City during August.

Stuart—where the writer built a little cottage—is one mile from the village on the banks of the St. Lucie river. This river is one of the deepest in the State. It empties into the Ocean at St. Lucie Inlet, and a junction of the Indian river. This is the heart of the pineapple section. Twenty-five percent of all the pineapples of the State are loaded at Stuart station.

This 22d day of January the record thermometer on my porch, in the shade, registers at this moment within one degree of 90, and the bees at my back door are in a perfect roar, bringing in pollen and honey. On Saturday, the 20th, a large swarm came out and flew to the northeast. Its flight was continuous, and was lost sight of in the distance. January is a very good honey-month in this county, if the weather is normal, but the last two years have been poor on account of so much of the prevailing high winds being from the northwest. This year is the most promising for many

years. About Dec. 20 the bees began to bring in a yellow pollen from a variety of little blossoms that did not seem to contain much else. About Jan. 1 the writer noticed the pollen on the bees' baskets turn white, on a close observation. I saw the bees were getting it almost exclusively from pennyroyal, of which there are acres in bloom in all directions, and about Jan. 10 followed a light flow of nectar from the same source. On the 18th a very heavy flow set in. At this time the field-bees were not so strong as they should have been to get the best results, but the hives were fairly full of bees under 15 days old.

I carefully timed one colony, and found 105 bees ladened with nectar enter the hive in 30 seconds. In this time not one bee came out. All my hives are one story, containing 24 frames—Poppleton style, entrance in the center. Placing my ear to a hive, I found it a delight to hear the bees evaporating the honey in every different part of the long hive, a fact quite new to me, as honey seemed to be stored in almost every one of the 24 frames. I notice that the bees here start to whiten the dark combs that have been in use 20 years just about the time they commence on the nectar in the North. Our flow is such that it comes in a rush, not giving much time to observe this practice.

I will close to don my bathing suit for "a dip" in the St. Lucie, 40 feet from my house, the temperature of the water being 74 degrees. Wm. A. SELSER.

The Standard Committee of the National Association of the State, Dairy, and Food Departments will hold a meeting in Chicago, Feb. 19 to Feb. 24, 1906. There will be reduced rates on the railroads on account of the National Dairy and Food Show, which is to be held here the same week. East of Chicago a rate of $1\frac{1}{2}$ fare is made, and west of Chicago a rate of 1 fare plus \$2. Certificates must be obtained with the ticket to Chicago, and tickets must be validated in Chicago for return.

The afternoon session of Feb. 22, to be held in the Great Northern Hotel, will be devoted to a discussion of the following: "Sugar, glucose, honey, vinegar, and food accessories—baking-powder, yeast, etc." An invitation is extended to any bee-keepers who may desire to attend, and, in case it is impossible to be present, those interested are requested to submit in writing any evidence, facts and arguments they may desire to present to the meeting. For any further information, address E. N. Eaton, State Analyst, 1628 Manhattan Bldg., 315 Dearborn St., Chicago, Ill.

Mr. James A. Stone, Secretary of the Illinois State Bee-Keepers' Association, is not only an extensive bee-keeper, but is a carload raiser of hogs. He brought a car to Chicago during the National convention, last month, and won two cash prizes, amounting to \$175. The \$100 prize was for the best carload of hogs numbering from 150 to 200. The breed was Berkshire, from spring pigs. The lots that Mr. Stone beat were of Poland, and also mixed hogs.

Honey and hogs seem a strange combination; but if they are not mixed too closely, perhaps the delicious flavor of the former will not be affected by the sometimes peculiar porky odors of the latter. Knowing Mr. Stone as well as we do, we have no fears of his ever becoming "hoggish," no matter how much he has to do with hogs.

Binding Volumes of Bee-Papers.—On this page is an article from R. B. Ross, Jr., telling how to bind volumes of magazines in a way to preserve them in permanent and convenient form. His method is also inexpensive. Almost anybody can follow his directions and do a good job. The details are described so carefully, in addition to the illustrations, that it ought to be an easy matter to bind magazines like the American Bee Journal and others. Mr. Ross says that he has never had papers bound in that way loosen or break away, and that it is the cheapest method he knows of, consistent with good work:



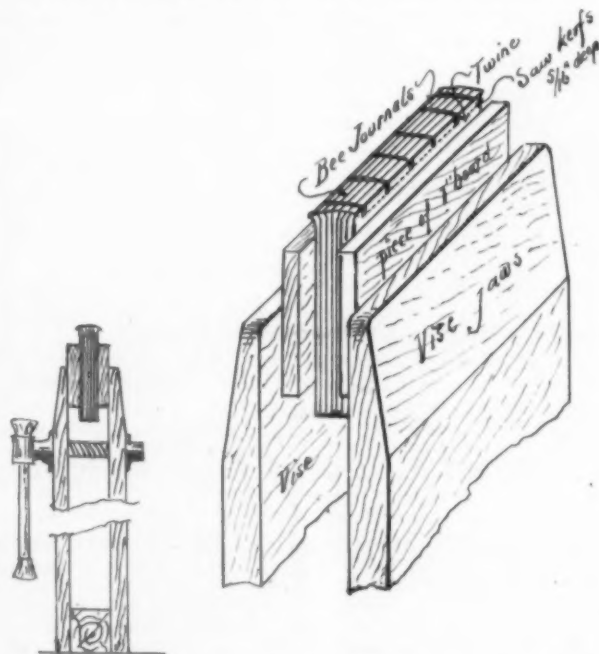
Contributed Special Articles

Binding Bee-Papers—Cheap, Effective Method

BY R. B. ROSS, JR.

IN looking over some old copies of the American Bee Journal I find that the earliest volumes which I have (back as far as 1890) are still in as good condition as the day they were bound, making due allowance, of course, for wear and tear; for I might as well confess here and now that these old bee-papers have been a source of immense pleasure and satisfaction to me.

My purpose is to urge all bee-keepers to preserve the various periodicals appertaining to their pursuit, as the winter evenings will give great opportunities for re-reading and digesting what perhaps they have been forced to lay aside, or merely skim through, during the busy rush of summer work. In this way very many valuable suggestions are gleaned, which, if put into practice, will add to the profits as well as the pleasures of our work. One such idea



(which I had missed previously) helped me to get a fair crop of honey the past season, while my neighbors had but indifferent success.

• There are doubtless some good binders on the market, and if one is disposed to use these they will answer the purpose very well; but if you wish to put your papers into solid book form at a minimum of expense, nothing, it seems to me, can excel the following method for durability and cheapness:

Remove, as far as practicable, all the creases which your papers have received in mailing, so as to get them to lie nearly flat. If the papers have been kept under a weight as fast as received and read, no trouble will be experienced on this score.

Get together the following materials: A pot of good flour-paste; a ball of common cotton grocery-twine—(a stronger twine is, of course, better if not too large); a few small strips of old cotton or flannelette; a putty-knife, or stick of soft wood whittled down to a similar shape—the end-bar of a Langstroth frame will furnish the material.

Now get out two boards of 1 inch or $\frac{3}{4}$ stuff about 8 inches wide, and 4 inches longer than the paper you wish to bind.

Place one of the boards before you on a bench or table, and lay a year's papers on it, being sure that they are properly arranged as to dates, and not upside down. Let the

backs project beyond the edge of the board about half an inch, the back of each number coming flush with its neighbors. Now place the second board on top directly over the first one, and with the help of a carpenter's vise or screw-clamps squeeze the boards tightly together, allowing the backs of the papers to project above the tops of the vise, as shown in the illustration.

With a cross-cut saw make 5 or 6 saw-kerfs across the back of the papers, the end-kerfs being about $\frac{1}{4}$ of an inch from each end, the others dividing up the remaining space.

It might be well to add a word of caution at this stage about removing the little wire clips with which the papers have been held together, wherever they interfere with the saw.

Be careful not to get the kerfs too deep, about five-sixteenths of an inch being right. Blow away the paper sawdust and flood the saw-kerfs with the flour-paste, using the thin edge of the putty-knife or stick to work it in thoroughly.

Now bring the twine into use: Commencing at one end of the center section take a couple of turns around it through the kerfs and tie securely, making the knots come in one of the kerfs so as to be out of sight. Now wind the twine in and out, back and forth, *being sure that you make a complete turn around each section before winding around the next.* Tie securely again in one of the kerfs, put in some more paste, and with the putty-knife pack short pieces of old cloth into the cuts, on top of the string, until they are completely filled.

The bound volume can now be taken out of the vise, and, after adding some more paste, put a piece of cloth or heavy wrapping-paper across the back and sides in such a manner as to cover the exposed portions of the twine where it runs along from section to section.

If you wish to add card covers it can easily be done, as you have a good, solid back on which to work. You can still further improve the appearance of the volumes by getting some friendly stationer to trim the edges for you in his large paper-cutter.

In conclusion, don't forget—

To have good flour or starch paste.

To remove all possible creases from papers.

To avoid the little wire clips when making saw-kerfs.

To stop sawing before you get the kerfs too deep, or you will not be able to read the papers when bound.

Clean up the kitchen if you have done your work there, and keep the "better half" sweet. Montreal, Que.



3.—Dadant Methods of Honey-Production

BY C. P. DADANT

AS I said in a previous article, we began the breeding of Italian bees about 1867 with one untested queen, for which we had paid \$5. This queen proved purely mated and a good breeder. So we began rearing young queens from her. We made a lot of little nuclei, much on the plan of the baby nuclei of to-day, only the combs were about 6 inches square, and we gave each nucleus a good supply of bees. The queen-cells were produced by removing our breeder to another hive and allowing her former hive to remain queenless. By feeding the bees during the rearing of queen-cells we secured very good queens.

At the end of the 10th day, when the queens were about to hatch, we introduced one queen-cell to each nucleus made the previous day. In this way we reared a sufficient number of queens for all our colonies and a few to sell. I remember that an old farmer of Iowa heard of our Italians, and came across the river and paid us \$20 for queens. Until then I had thought my father rather extravagant to have paid \$5 for a single queen, but I changed my mind from that day on.

There was one trouble about our breeding, and we soon found it out. I mention it that others may not fall into the same fault. It was the rearing of both queen and drones from the same mother. Within a few years some of our queens produced blind drones. It is quite probable that our bees had already been too much in-bred before we bought that queen, and we followed the mistake of our predecessor. As soon as we found this out we secured other Italians from another breeder, to mix the bees with fresh blood. It was then that my father formed the plan of beginning the importations of queens on a large scale. But disappointment after disappointment was in store. The Italian breeders (or rather dealers, for they did not do any breeding) were

entirely ignorant of the necessary requirements of shipping, and literally drowned the bees by supplying them with too much honey. Then they insisted on furnishing them water. A little later it was the bee-moth which interfered, for moths are exceedingly plentiful in the warm climate of Italy, and the moths destroyed the combs and the bees during the trip from Europe. The boxes would arrive here alive with moths and filled with a mass of webs and cocoons.

At last my father made a trip to Italy in partnership with Mrs. Ellen Tupper, whom the old bee-keepers will remember. This trip was a failure, also, but from that time on the true methods of queen-shipping were ascertained, and success at last crowned our efforts, after some five or six seasons of failure. We were able to secure new blood direct from the original source.

The experience of those days prompts me to say to the beginner: Do not rear queens and drones from the same stock, but be as careful of the former as of the latter. If you do not care to breed queens by the new methods, you can still rear them in the old way, from strong colonies made queenless during a honey-flow, taking care to begin as early as possible.

We always reared our queen-cells from the very best queen we had, taking the following things in consideration: Purity of race, prolificness and gentleness. When I say prolificness, I mean largest honey-production. These two things always go hand in hand.

Our drones were reared from the next best colonies, by giving them a couple of drone-combs in the center of the brood-nest, and feeding them plentifully as early as convenient, so that they might breed drones early. The drones of good quality are as essential as the good queens, but we can not control the mating, and for that reason we are likely to lay more stress upon the queen's pedigree. But we can, to a great extent, secure pure mating by rearing both drones and queens early.

We found it also very important to destroy the drone-combs and replace them with worker-combs, as much as possible, in all the colonies from which we did not want any reproducers.

I say, replace the drone-combs with worker-combs, because we found that if the drone-combs were cut out and the space left empty, the bees would almost invariably rebuild drone-comb in the same spot. But they are averse to destroying comb, and if you insert worker-combs in the empty space, you will find that they rear drones only in the cells of accommodation, or in the corners that happen to be left. Every colony will rear a few drones, in spite of all we can do to prevent it, but it is the wholesale breeding of drones which we want to encourage in only one or two colonies and prevent it in all the others. Not only your bees, but also your neighbor's bees, will become improved by this, and the benefit will sooner or later come back to you. Hamilton, Ill.



Mice With Bees in Summer or Winter

BY G. M. DOOLITTLE

WINTER or summer—which? That's the question. If it is summer you are asking about, let the mice go with the bees all they wish, for it means so many dead mice. I know whereof I affirm, for three times in my life I have known mice to run into bee-hives in summer, when the colonies in them were in a prosperous condition, and the mice were dispatched in 5 minutes unless they succeeded in getting out of the hive very quickly. But if it is winter you are talking about, then I say, *Don't!*

During winter the bees are in a semi-dormant state, and when in this condition they will not notice a mouse by way of killing it by stinging or in driving it from the hive. And if the mice are so annoying that they arouse the colony to activity, this dormant state is broken up, and through this the chances of good wintering are very much lessened. Then, as the bees do not drive the mice from their hives, the mice "have full sway," and the result is gnawed combs, with nests amongst them, and a general nasty mess is sure to follow. And when the bees get things cleaned up in the spring, if they live through all the worry and trouble, as soon as comb-building commences these damaged combs are sure to be repaired with comb of the drone-size of cell, so that our nice, straight, all-worker combs—combs which we have taken so much pains to secure, and looked upon with so much pride—are nearly ruined, as far as rearing worker-bees is concerned.

There are four species of mice which are troublesome to

the bees and their keeper, and they are troublesome in this locality in the order named:

1. That innocent looking, fawn-colored-on-back-and-white-underneath mouse—which is called in these parts by the various names of "wood-mouse," "deer-mouse," "dormouse" and "tree-climber"—cause more trouble than all the others put together.

2. Next, the house-mouse—the one our good house-wives so much abhor, on account of its getting into the pantry and feasting on the good things there.

3. The field-mouse—that chap that lives on our grasses and their roots, and the one so hated by the orchardists on account of its gnawing the bark off the young fruit-trees near the ground, or "girdling" them.

4. The little, soft-furred shrew.

The dor-mouse lives, when in the hives, on the thorax part of the bee, and it is very easy to tell when he is around the hives, by finding the head, wings and abdomen of the bee scattered all about on the bottom-board of the hives. The house-mouse eats the honey, and does not touch the bees as food. The field-mouse eats nothing in the hive, but is pleased with the warm place he can enjoy at the bees' expense; while the shrew cares for nothing in the hives except the bees, which he greedily devours, all except the wings.

Thus, the experienced eye can tell at a glance the kind of mice that are troubling the bees in any apiary, in this locality, during the winter months; the only time in which mice are really troublesome in the apiary, and can work accordingly, when means are used to get rid of these pests.

And now about keeping them from the bees, for I suppose that is what all are the most anxious to know: Where colonies are wintered outdoors, I know of but one reasonable plan, and that is to keep them out of the hives; for mice do not annoy by running over the hives when the bees are wintered on the summer stands as they do where cellar-wintering is practiced. My plan has been to procure some of the galvanized wire-cloth, having $\frac{3}{8}$ mesh, and from this cut the right size strip so that it will fully cover the entrance to each hive, and, when in place, this will perfectly exclude the mice, and at the same time allow the bees as free a use of their "doorway" as if it were not there. And the time to put this on the hive is a little before the bees cease their activity in the fall; for should you wait till later before putting on these mouse-excluders, you might fasten the mice in the hives, when it would be worse than an open entrance would be.

Where bees are wintered in the cellar, and especially where the bottom-boards are left on the summer stands, we must resort to traps or poisoning. As I dislike the poisoning (on account of the liability that the poison may be used through accident or otherwise by something besides the mice; and on account of the stench that will arise where many mice or rats are killed with poison) I adhere to the traps, and in 25 years of practice I have been enabled to keep the mice under perfect control with these traps. I use two kinds of traps—the "catch'em-alive" and the "choker," though I much prefer the latter. However, there is now and then a field-mouse too large for the choker-trap, and you are sure of him with the other, and for this reason I use both where I am led to believe that the field-mice are present.

For the dor-mouse and house-mouse, give me a good 4 or 5 hole, wood, choker-trap in preference to anything else, no matter whether these mice are in the bee-cellar, house or barn. Before you set these traps, drive a wire-nail down from the top over each hole, so the point will stick through the center of the top of the hole from $\frac{1}{8}$ to $\frac{3}{16}$ of an inch, this nail-point coming just in front of the wire that does the choking when the mouse springs the trap. When thus fixed, no mouse will ever pull out of the trap, even though he is caught just at the end of the nose. I use $\frac{3}{8}$ or $\frac{1}{2}$ inch nails for this purpose, just according to the thickness of the wood in the trap. When the trap springs, the choker-wire forces the point of this nail through the skin on the back of the mouse's neck, and it is impossible for him to pull away, no matter how weak the spring to the trap may get.

But this article would be incomplete without telling you about the bait to use. Cheese is the most common bait used by all when setting traps for mice, and if it is the house-mouse you are after, that is all right; but for the others it is almost the poorest bait you could use. What is wanted is a bait suitable for all and every kind of mouse that comes along. After years of study and experimenting along this "mouse-bait" problem, I use corn on half the bait-rods, and pumpkin or squash seeds on the others. All

kinds of mice eat both of these, and especially the seeds. Even the shrew, which is an insectivorous animal, is eager for squash-seed, especially those fresh from the squash. With these choker-traps and this bait, I have no trouble in ridding any bee-cellar of all mice within two days to a week from the time I commence.

At the out-apiary I use the Dr. Miller bottom-boards, and before nailing up, the cleats for the wintering side have a saw-kerf cut in them at the right place, so that when the bottom-board is reversed (when the bees are being prepared for winter) a strip of this $\frac{3}{8}$ mesh wire-cloth is slipped into this kerf, the hive set up to it, so that when the crate staples have been driven to secure the bottom-board to the hive, the whole thing is secure from any mice getting at the bees and combs; for I do not go near this cellar after the bees are put in till they are taken out in the spring. In this way the bees and combs come out in perfect shape each spring now, while formerly many combs would be spoiled each winter, and whole colonies of bees ruined by the mice, tolerated in this farmer's cellar.

Borodino, N. Y.



Southern
+ Beedom +

Conducted by LOUIS H. SCHOLL, New Braunfels, Tex.

Plan the Work

The following, taken from Farm and Ranch (Texas), applies so well to bee-keeping that it was too good not to repeat it here. This is the age of better industries, and bee-keeping should follow in line. We are all interested in the betterment of the bee-keeper and his vocation. It is as follows:

"Seed-time and harvest must come year after year. In following this steady round we form certain habits with more or less thought worked in. Unless we take care the work of this new year will be done upon the plan and the plane of last year. Have a care. Devise plans. Adapt. Here is Improvement. Take fast hold upon her; let her not go until you have lifted self from the ruts of weeks and months of labor. Better stand still for one week than to follow blindly the customs, the set-fasts of the former years. Recast it all. Do it now, before planning this year's crops. Get a system. Make it peculiar to yourself and to your surroundings. Let it have a color scheme, bordered 'round with some fun. Let in the light of mirth and joy, or the plan will be colorless—a sober grey. All work and no play may make Jack a dull boy, but it makes his father (and his mother) grumpy, dissatisfied or sullen. True in city as well as in country. Let in the light.

"Drudging from 12 to 16 hours a day does not make truly great men or women—though it may make martyrs. The leaven of Thought is worth more than Muscle. Brute strength has been heavily discounted by science and invention. Where are the well-balanced men, who, with trained minds in sound bodies are their own 'captains of industry?' These are masters of self. Every day should have its hours of Toil, of Rest, of Thought. These are the trinity of daily balance in our lives. Plan to recognize Toil, Rest, Thought."

Farm Bee-Keeping

Does bee-keeping on the farm pay? This is a question asked us by many farmers after their attention has been attracted by the busily working bees on the flowers—in the fields—or by the busy hum of the little workers near an apiary of a large apiarist, or even when they see some of the nice, white product of the hive on display in a store window, or in its place on the table; or when, perchance, a copy of a bee-paper has fallen into their hands at some time. To these the answer is that in most places it pays, and in more ways than one.

As diversification in crops on the farm has become to be the order of the day, bee-keeping should not be overlooked as one of the branches of a well-regulated farm. Many farmers should own a dozen or two colonies of bees, and these, if properly taken care of at the right time, would need

very little attention as compared with the time necessary for the care of poultry, stock, and truck-gardening.

Besides a good remuneration in honey for the table, and some to spare, the bees would do much good in fertilizing fruit-blossoms at the same time, for why did Nature place these little cups of nectar in the flowers to tempt the bees and butterflies? It was for no other reason or purpose than to have the little workers aid in pollenizing the fruit-blossoms to make the plant or vine more fruitful, besides furnishing man with so rare a dish of sweets, through the agency of the bees. For this reason I would recommend—encourage—farm bee-keeping. But I would impress also the fact that the bee-business is like any other occupation, and if only a half-dozen colonies are kept it pays to have up-to-date hives, and use modern methods. Keep them in a business-like way; look after them at the right time; give them the proper attention, and bees on the farm will pay well for their trouble.



Our Sister Bee-Keepers

Conducted by EMMA M. WILSON, Marengo, Ill.

A Beginner's Questions

What is the price of a fertilized queen-bee? Are the Carniolans better than the Italians? I am a beginner. I bought 2 colonies; one died 2 years ago, and last year they did nothing but swarm. I have 15 colonies now, and I should think it was time they had new blood in the stock, if they are like all other farm stock. What would a baby nucleus cost by express? and where can I get it?

Rock Co., Wis.

MRS. J. C. PLUMB.

You can get an untested laying queen for one dollar usually, and that is probably the best you can buy.

Some people may think the Carniolan, but the majority will say the Italian.

If your bees are doing good work as honey-gatherers they are probably not suffering for new blood. If there are bees anywhere within 2 miles or so from you your bees will cross with them, and you can not help it. So you see they may be getting the new blood all right without you knowing it.

Unless you intend to go into queen-rearing on a rather large scale it is hardly advisable to have anything to do with baby nuclei, as they are used only for the fertilization of queens.

Honey in Canning Fruit and in Candy

Suppose we give Miss Wilson a little lift when we can, by sending to her a bit of our experiences. You know lifting only makes us stronger, and no one can tell the good that has been accomplished by just a word or sentence. Sometimes a mere accident or necessity may reveal a fact that, if known, would be of inestimable value as a basis of experiment, while the incident itself may be only a trifling thing, yet causing others to think and investigate.

For instance, we have had a little experience in the use of honey, that may be interesting to some of the sisters.

Having nearly one-half barrel of dark honey that we did not know just what to do with, because we could not use it for wintering bees, and to feed it in the spring meant either to damage our crop or be to the bother of extracting it; so we concluded to try it in our canning, and, indeed, found it very satisfactory.

We had small fruit to put up, such as cherries and berries. After the cherries were pitted ready for canning, we put them on the same as we would for ordinary canning, only used honey in place of sugar, and found the color even deepened and the flavor improved.

We then tried strawberries, and they were beautiful to look at, and as delicious; while the same testimony may be given for black and red raspberries.

We also found honey-hoarhound candy is delicious. Mr. Ferris brought a small package of hoarhound from the city. We took about one-fourth of the package and steeped it until the virtue was taken from the hoarhound, and strained,

then put in $2\frac{1}{2}$ cups of sugar, letting that boil a few moments, or until most of the water had evaporated, if not all of it; then we put in the same amount of honey— $2\frac{1}{2}$ cups—and let it boil (stirring almost constantly) until, when we tested it, it hardened quickly.

Madison, Wis.

MRS. A. K. FERRIS.

This Sister Delights in Bee-Keeping

DEAR SISTER WILSON:—I will send you a report of my honey crop this year.

My bees gathered 700 pounds of surplus honey, and I had to feed them 700 pounds of old honey, so they just made a living last year. They did not gather any honey after July to amount to anything, and so did not store any in the surplus boxes after that, but this doesn't discourage me, for I delight in bee-keeping. I took a trip to the Eastern States two years ago. I went to Illinois, Indiana, Ohio, Virginia and Pennsylvania. I saw but very few bee-hives along the railroad where I traveled.

LINDEN A VALUABLE TREE.

The linden or basswood is valuable in a great many ways. The best butter-bowls and butter-paddles are made of linden wood. The butter doesn't stick to linden wood. I have a linden butter-bowl and butter-paddle that are 54 years old, and they have worn well. Many a pound of butter I have paddled in a linden butter-bowl with a linden butter-paddle. If the people of the State of Iowa had planted linden groves instead of maple groves that State would have been far wealthier, and also far healthier. Hurrah for the bee-keeper that has a linden grove!

PROPOLIS VERY VALUABLE.

Propolis is very useful in a great many ways. I have invented a new kind of picture-frame. It is made of propolis and all kinds of fancy broken dishes, glassware and old picture-frames. The frame, when finished, looks beautiful as well as ornamental. Some time I will tell how this picture-frame is made.

CRACKLESS CAKES OF BEESWAX.

If one doesn't want the cakes of beeswax to crack, render the combs in the full of the moon, as the Germans call it; or in the light of the moon, as the Yankees call it. Then the cakes of beeswax won't crack. Some of you may laugh at this idea.

MRS. CATHERINE WAINWRIGHT.

Sister Wainwright, suppose you try it in the dark of the moon, and then in the light, and see if there is any difference, and then report the difference.



Mr. Hasty's Afterthoughts

The "Old Reliable" as seen through New and Unreliable Glasses.
By E. E. Hasty, Sta. B. Rural, Toledo, Ohio.

BEES AND ALSIKE CLOVER SEED.

The experiences about bees and alsike seed which Mr. Pettit puts in on page 884 are striking. A few patches of alsike yield seed well usually. A large acreage, if near a big apiary, yields 6 to 9 bushels per acre. But $1\frac{1}{2}$ miles from an apiary, and beyond, the yield will be only 2 to 5 bushels per acre, with same soil and culture, if many acres are tried. Must have bees, it seems, to raise alsike seed profitably on a large scale.

THE BLESSEDNESS OF FAILURE.

The poem, "Blessed are Ye That Fail," is one of very great beauty and excellence. As it stands, the first line of the second stanza is a rather startling failure rhythmically considered; but, perhaps, the printer is the one to blame on that.

"For none [can] fall unless they first have striven"—
would go all right; or—

"None fall unless they first [somewhat] have striven."

Luke 6: 21 comes very close to the wished-for beatitude—
Blessed are ye that weep now; for ye shall laugh. Hard to

name many things which we weep over more frequently than over our failures. Page 885.

GUESSES IT TO BE POISON.

My timid guess at "Cuba's" sad case of bees dragging one another out until nearly all were gone would be poison. Between poisonous nectar and poison given by some ill-disposed person I would rather guess the latter. But, after all, it may be a disease—more or less akin to the one known as paralysis—perhaps still nearer to what has been called "Evaporation." Page 886.

WITCH-HAZEL A LATE BLOOMER.

One of the latest things to bloom is witch-hazel. Blooms are most conspicuous after its leaves have fallen off, and everything else is going into winter quarters. Lots of it around me; although I do not remember ever seeing bees at it. Possibly they would go for it if weather allowed. Page 886.

THE MILLER WAX-EXTRACTOR.

For aught I can see, the removable cone cover of the Miller wax-extractor is expected to be water-tight at the bottom after it is put on. Beyond hoping for, and a fatal defect, it seems to me. May be I'm too faint-hearted. Nevertheless, the germ of a valuable new utensil may be there. Actual use rather than inspection of pictures must decide finally. Hope Mr. Miller, now he is in for it, will stick to his task, like a dog at a root, until he *does* get a satisfactory machine that will grind loose and float out the wax instead of penning it in. Page 898.

CERASIN AND BEESWAX.

Some rogues are pretty sharp. It rather jars us up to be told by authority from Washington that pure cerasin—not a particle of beeswax in it—has been encountered looking and smelling very much like beeswax, and with the correct melting point, also. Correct melting point would not necessarily mean the proper amount of toughness when at 100°, Fahr. Page 902.

BISULPHIDE OF CARBON IN CANADA.

'Pears like the Canadian druggists have milder appetites for profit than ours if they sell bisulphide of carbon at 10 cents a pound. Page 905.

VALUABLE MAN WHO DEFENDS THE SPARROW.

In the country the sparrow multiplies and displaces our native birds much better than he. I'll grant that in the cities there was a time when the small boy had the native birds driven out, and the sparrow had not come yet, leaving a dangerous vacancy for worms to breed in. I think proper public and police remedies should have been applied rather than the importation of a bad foreign bird. And, with all due apologies to Em Dee, the robin, as I see him, takes the perfect cherries and leaves the wormy ones. But the man who dares to defend the sparrow is an exceedingly valuable man. We'll look to realize much good from his David-and-Goliath performances some other time. Page 906.

FAREWELL TO THE OLD YEAR.

Eugene Secor's farewell to the Old Year goes right to the heart of some of us old chaps, who love the old things and ways, and receive the rush of new ones with forebodings, and more or less of reluctance. Alas, we repeat the experiences of the dog tied to the hind "ex" under the wagon! Our hanging back doesn't count. Barking and howling occasionally is a little more to the purpose; but even that avails very little. On goes the wagon. I can remember when for a country minister to take a fee for conducting a funeral service would bring about his ears an indignation meeting. Now the practise is general. On goes the wagon. I can remember when no one thought of such a thing as ordering people away from picking berries in his woods or uncultivated lands. If any one secretly desired it, wholesome fear of being called "a hog" restrained him. Now that practise is general. On goes the wagon. And how much does my gentle howl avail? Well, there are berries in my woods; and while I live I guess the public will be free to come and pick. After then, who knows? It's not only "Good-bye, Old Year!" but Good-bye, Old Fraternity Times! O Liberty, Equality and Fraternity! Equality has gone; Fraternity is going; how long will Liberty stay alone? Page 1.

See Langstroth Book Offer on another page of this copy of the American Bee Journal.



Doctor Miller's Question Box

Send questions either to the office of the American Bee Journal, or to Dr. C. C. MILLER, Marengo, Ill.

Dr. Miller does not answer Questions by mail.

Internal Hive Temperature

1. How many degrees of temperature is there in a beehive, in the brood-nest, or above the brood-nest? Answer in figures.

2. If I place one hive on top of the other, what would be the temperature in the top hive? Would this make any difference?

3. How hot is it in a hive in the summer—in honey-flow, I mean?

4. If a thermometer be placed between two combs of brood with bees on them as usual, at what figure would the thermometer stand?

WISCONSIN.

ANSWERS.—1. I can not give off-hand the temperature to be found in a brood-nest in summer-time, and rather strangely I do not find it by looking at the index in a number of books, although it is well known. I think it is not very far below 100 degrees, although, of course, outside temperature and strength of colony will make a little variation. "Above the brood-nest" may be just the same as in the brood-nest, and it may be quite different, something, of course, depending upon how far above is meant. On a broiling hot day the temperature above would be about the same as in the brood-nest; with the outside temperature at 60 degrees or lower, the temperature would fall, as the distance becomes greater above the brood-nest.

2. If both stories were occupied with bees, there would probably be no appreciable difference in temperature; although on a cool day the temperature at the bottom of the lower hive would be lower than in any part of the upper hive.

3. In the honey-flow the temperature of the brood-nest will be the same as before and after the honey-flow.

4. I don't know, but it would vary no little with the variation of the surrounding air. In a full colony there is very little such variation, for the strong force of bees is sufficient to keep up a uniform temperature with little regard to surrounding temperature; but with only bees enough to cover two combs the case would be different. If the outside thermometer showed 100 in the shade, I should expect about 100 between the two combs; but with the thermometer constantly falling in the surrounding air, it might be expected to fall also in the cluster, but not to so great a degree.

Honey-Dew—Late Winter and Spring Feeding—Cleaning Wood Separators

The last season was the worst I experienced in several respects. The early part of the summer was wet and cold. White clover—our main source of honey—bloomed profusely, but furnished but little honey, and the cold, wet weather did not allow the bees to gather much of the time. Later the bees got busy for a time, but I could not see many working on white clover, and, on examination, I found they were working on the leaves and small limbs of red-oak timber. The honey they gathered was thin, of a muddy-water color, and of poor quality. The season turned dry and the flow stopped all at once, and we got no more honey to speak of. Basswood was a failure, and we had no fall flow. I examined my bees and found that out of over 50 colonies I would have to feed about half of them, which I did with sugar syrup until I considered I had them all in shape to winter. The fall was favorable for a late flight up to Nov. 20; I put my bees into the cellar the first of December, and I was surprised to find that they had consumed their stores until there was not more than a dozen that would winter, and several had already starved. I put them into the cellar and am feeding heavy sugar syrup. Some take it quite readily, and some take it slowly. They appear all right so

far, and I will take them out as early as they can have a flight.

1. What, in your opinion, was the nature of the source of honey gathered from the red-oak timber?

2. What was the cause of the stores disappearing between feeding and putting into the cellar?

3. Please offer any suggestion that you think would be beneficial in getting my bees through the winter and spring, as I wish to save them, if possible, as the prospect for a good white clover crop the coming season is flattering.

4. I have noticed that in your book and other writings you advise throwing wood-separators away after they become coated with propolis, it being cheaper to buy new ones than to try to clean them. Now, I have never thrown one away until it was worn out or broken, and I don't miss the time it takes to clean them. I have a device of my own by which I clean a hundred per hour easily, and I am not quite certain but what bees enter a super more readily with separators that have been used, as it appears to be natural for a bee to want to stick its nose around among fixtures that have been used in a bee-hive. I shall not attempt to explain my system, but if you feel interested I will make you an outfit and send it to you to try, and I think you will quit discarding used separators, and throw your short-handled hatchet at a stray dog. After a test, if you find any merit in it, you can tell the folks about it. I find that to cut expense in small things is what helps to add materially to the profit in bee-keeping.

Iowa.

ANSWERS.—1. It was the so-called honey-dew, probably the production of the aphid or plant-louse.

2. It was probably nothing more than the unusual amount of continued warm weather, allowing the bees to fly without being able to gather anything, the continued exertion obliging them to draw heavily on their stores. It is barely possible that the character of their stores may have had something to do with it, too.

3. There is probably nothing to be done better than you are doing, for so long as they have the sugar syrup convenient they will use that and let the honey-dew alone, and honey-dew is very generally not the best stuff for bees to winter on.

4. I don't know that I have ever advised that every one should throw away wood separators after having used them only once, and, indeed, last year I used some myself that had been used once, but were unusually clean. There are probably localities where there is so little bee-glue that a separator might not be very badly daubed with propolis after sev-

eral years' use. Then there are other localities, especially at certain times of the year, where a separator would be unfit to use the second time without being cleaned. The choice between cleaning separators and buying new is a matter to be decided by the cost of cleaning as compared with the cost of buying new. You are quite right, I think, in believing that the bees would have at least a little preference for separators that had been once used. That's because of the bee-glue that's left on them, and the more heavily coated the better, to suit their notions. But the bee-keeper, rather than the bees, is to be considered in this case, and for this purpose the cleaner the better. At least for my own use I prefer them immaculately clean.

So, unless they can be cleaned at a little less expense than the cost of new separators, the new will be preferred. Some are so situated that the time occupied in cleaning might be worth little or nothing for any other purpose, and such persons can make money by cleaning 100 separators an hour. In my own case it would be cheaper to buy new, especially as I have a preference for them, so it would hardly be worth while for me to try your arrangement, but it will be well worth while for you to publish your plan for the benefit of those to whom it might be a real saving.

How About North Facing of Hives?

Is a lawn sloping to the north a good location for bees? The entrances to face the north, and no shade. OHIO.

ANSWER.—You will probably find that it will not make very much difference whether the slope and the aspect are toward the north or the south during most of the year. Sometimes your north slope will be the better one, and sometimes the south. In cool days the southern exposure will generally be better, and in the hottest days the northern. In winter there will be days when soft snow is on the ground and the sun shining brightly to entice the bees out to a chilly tomb, and on such days the northern aspect will be better. There will be other days in winter when the weather and all conditions are favorable for a cleansing flight, and then the southern slope will be better. That cleansing flight is a matter of so much importance that on the whole it may be better to have the southern slope for wintering. This refers, of course, to locations far enough north to make a winter flight an infrequent occurrence. If your bees are wintered in the cellar, it will probably be a toss up which way is better.

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Only \$2.50, f.o.b. Chicago, by Express. Weight, with packing, about 4 pounds.

What Dr. Miller Thinks of the Bee-Hive Clock

Busily ticking away, in the room where I am sitting, stands a genuine bee-keeper's clock (please understand that the word "genuine" belongs to the clock and not to the bee-keeper) for, as the legend upon the clock has it, "The Bee-Hive Clock." I don't know

whether the idea of getting up such a clock was conceived in the brain of the Editor of the American Bee Journal, or whether he got it elsewhere, but the wonder is that such a thing was not thought of long before.

Setting aside all idea of its association with the business of a bee-keeper, there is a peculiar appropriateness in having the minutes and the hours "told off" in a case representing the home of the busy little workers. The glance at the clock, with its ceaseless tick, tick, tick, can not fail to remind one that the flying moments must be improved now or be forever lost, and that suggestion is reinforced by the thought of the never ceasing activity of the little denizens of the hive, always busy, busy, busy, working from morn till night and from night till morn, working unselfishly for the generations to come, and literally dying in the harness.

Let us be thankful that the form of the old-fashioned straw hive or skep was adopted, and not that of any modern affair, patented or unpatented. The latter smacks of commercialism, but the former of solid comfort, for no other form of hive has ever been devised that contributes so fully to the comfort and welfare of a colony of bees as does the old-fashioned straw-hive. It appeals, too, to one's artistic sense as can no angular affair of more modern times. As an emblem of industry, artists have always used—probably always will use—the old straw skep.

Thanks, Mr. Editor, for furnishing us a time-keeper so appropriate for all, and especially for bee-keepers. C. C. MILLER.

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Reports and Experiences

Mildest Winter Experienced

We are having the mildest winter I ever experienced. Up to date the thermometer has touched zero only twice; there has been no snow, and if a severe cold snap comes it is likely to prove disastrous to the alsike clover. Bees appear to be wintering all right.
Markham, Ont., Jan. 15. J. L. BYER

Summer in California

I have just come in from my home-apirary, and I never saw the like of bees in the air for Jan. 3. And what do you think? One of my very strong colonies, with a 1905 queen, had drones!

This has been the driest season I have yet seen in California—only a little over an inch of rain has fallen. No doubt the bees think it is summer yet.
CHARLES EDSON.
Grafton, Calif.

What One Nucleus Did

I bought a 3-frame nucleus June 8, 1905. I gave it full frames of foundation in an 8-frame hive, and on July 10 it swarmed; on July 18 it swarmed again. Oct. 10 the parent colony weighed 58 pounds in an 8-frame hive; the prime swarm, 72 pounds in a 10-frame hive; and the other weighed 50 pounds in an 8-frame hive. I weighed them without the hive-covers. They are all in Wisconsin hives. I also got 24 pounds of honey, which I sold for 15 cents a pound.

The foregoing is the very best way to get a start with bees. I have some black bees, but they are not "in it" with the Italians.

If I had known about the American Bee Journal 40 years ago I would have had it.

JAMES GAMASH.

Waukegan, Ill., Dec. 26, 1905.

Packing Bees for Winter

Last July I embarked in the bee-business, and as I have owned bees since that time (5 months) I should be able to give some "valuable advice!"

The last of August I was taken sick and did not get out of the house until in October. When I did get able to be around I examined the bees and found two of the colonies about destroyed by the moth, and 3 or 4 with but very scanty provision for the winter.

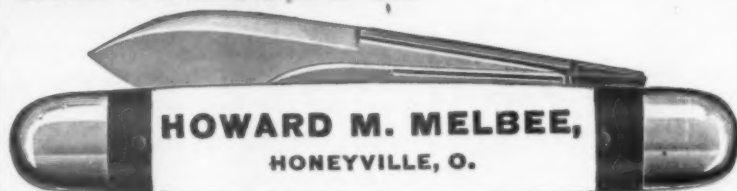
I brought them in from the country (46 colonies in all), and placed them facing the east and south, along the fence and an out-building, placing the colonies 4 inches apart. After they had become used to their new quarters I packed them well with straw, filling in the space between the hives and fence, which is a 2-foot space, and in between the colonies and underneath. However, before I packed them I cleaned all the moth out and fed up the weak colonies, although it was late in the season.

December 1st I took tarred paper 3 feet wide, put one layer on and let it project over the front of the hives about 12 or 14 inches, then placed another one on, reaching back to the fence and lapping over the first one about a foot. This, I think, will help to keep the heat in, and the snow, rain, and cold out.

After they had several good flights, the last one being December 26, I leaned some short boards against the hives at an angle of about 45 degrees, and on these I placed another sheet of the tarred paper, thus closing the bees up as completely as though they were in a cellar. This will save the work of carrying the bees in in the fall and out in the spring. Besides, they will have the advantage of a flight every warm day, as all that will be necessary will be to lay the last sheet of paper back on the ground and they will be out-of-doors; and the paper will cover up the snow,

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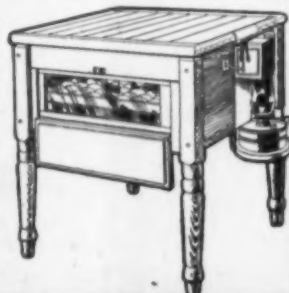
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should there be any on the ground, for a space of 3 feet in front of the hives.

I forgot to say that on top of the first two sheets I placed some woven-wire netting that I use in the garden in the summer-time for the peas to run on. I placed this on top, and then weighted it down with old lumber to keep the wind from blowing it off.

Packing these bees thus cost me not to exceed 10 cents per colony. WM. G. ROBERTS.
Panora, Iowa, Dec. 28, 1905.

Results of the Season of 1905

I had 6 colonies of bees last spring, and increased to 8. Two of the weakest swarmed, and the rest gave 400 pounds of section honey, which I sold at 18 to 20 cents per section.

My bees are in good shape for winter, with plenty of honey to last until it comes again.

I used T-supers on cases as soon as sections came into use. I sawed the T-strips with a foot-power saw, so I used them before I knew of Dr. Miller. Dr. Miller was the first to begin the use of top and bottom starters in sections. My bees would build up through between sections. Then I tried putting starters at the bottom of the sections, and it worked like a charm. I have used them that way ever since.

HENRY BEST.

Hibbetts, Ohio, Dec. 29, 1905.

Did Fairly Well the Past Season

I put my bees into the cellar Dec. 15, and they are in pretty fair condition, seeming to rest easy. The cellar is fresh and sweet, where the thermometer reaches 30 and 40 degrees above zero. All have plenty of stores for winter. They did fairly well the past season, as I sold nearly 1000 pounds of honey, and have 500 left. I sell all my honey around home and in neighboring towns; comb honey from 10 to 15 cents, extracted 60 cents per half gallon jar, or \$1.20 per gallon. I sell more extracted than comb honey. I extracted 80 pounds of honey from each of some colonies, and from some 75 pounds of section honey. I think it pays better to run for comb honey, but one thing is certain, it does not sell as well here as does extracted. People say it is too dear; they say it is nice, but would rather take a jar of extracted. Sometimes I give them a section as a sample, and when I meet them again they ask me whether I have some more of that nice section honey, and they sometimes buy 10 or 15 pounds at a time.

I have a rubber stamp with my name and address, and every section is stamped, as it looks more neat.

B. F. SCHMIDT.

N. Buena Vista, Iowa, Dec. 28, 1905.

Home-Made Hives and Frames

Mr. J. E. Johnson, on page (1905), wrote a splendid article on home-made hives, trusts, etc., which is worth the price of the Journal for a long time.

I started the bee-business 23 years ago when it was next to impossible to get factory-made hives. I bought the "A B C of Bee-Culture," which contained directions for making hives by machinery, and from it I studied out a plan to make them by hand. As Mr. Johnson said he did, I made several failures before I could make a good hive cheaply; but now, with the exception of the locked corners, I have as good a hive as I care for, with less work than Mr. Johnson did.

I made a frame hive, Langstroth size, with bottoms and covers that I like better than any factory-made hive covers or bottoms I ever saw. For bottom-boards I simply used 1x14 inch boards cut 24 inches long, which is enough longer than the hive to make a nice alighting-board. I used 2x4 all-heart yellow pine for sills cut angling, or 14 inches on one edge and 18 on the other, so as to give a wide foundation to prevent the wind blowing the hives over during a storm. These I set on thin flat rocks or bricks, which keep the hive-bottoms off the ground, and by keeping them well painted they will last a life-time, as I have some I made in 1882, and they are sound and good yet.

In making the cover, I used boards a little wider, 1x16 inches, cut 20- $\frac{1}{2}$ inches long. I wet the heart side and laid them in the sun-

shine on wet ground or grass, wet side down, and in half a day they were cupped to an oval shape sufficient to turn water.

For end stuff I used 1x3, cut on one edge the shape of a wagon felloe, and the same length as the width of the cover, so the $\frac{1}{2}$ -inch stuff used on the sides of the cover will come up against the edge of the wide board and nail well. I then covered it with tin and put on iron handles, made in a blacksmith's shop, on the center of the cover, and painted the hive.

In making the body of the hive I cut the lumber the proper length after rabbeting the end-stuff for frames to rest on, and nailed together, with the heart side out to prevent cupping or pulling off at the corners, with four 8d nails to each corner.

For an entrance to the hive I cut out, on the lower edge of the front end of the hive, a strip $\frac{3}{4}$ x6 inches, or sometimes this strip may be the full width of the hive.

For frames, I proceed almost as Mr. Johnson did, except the hand-ripping of good boxes. I went to the lumber-yard and selected all sap-fencing lumber 1x6 inches, and 12 or 14 feet long, and had it ripped at the planing-mill the sizes or thicknesses desired, and used the pattern or miter box for cutting. To prevent splitting in nailing, I put the material (after it had been cut into the proper lengths) into a tub of water for a few minutes, for, as you know, a sappy stick does not split easily.

Now, for comb-guides! I learned from Mr. Doolittle, in the American Bee Journal, how to make a wax comb-guide and starter all in one. I will not tell here how that is done, but it's all right, for I have used it for years, even in section-boxes.

D. F. MARKS.

Lorens, Tex., Sept. 17, 1905.

The Season of 1905

I had 70 colonies to start with in the spring of 1905. During the season I took 4180 pounds of choicest white honey. In the fall I sold 3 colonies, and put 115 into the cellar.

JACQUES VERRET.

Charlesbourg, Que., Jan. 23.

Bee-Men and Bees—Large Sections

I have often thought what a fraternal lot of fellows bee-men are! I think I hear some one say, "You don't know them all or you would not say that." Well, I don't know all of them, or nearly all, and those I do know I have been introduced to through the bee-papers, but I will say that the man who is out of this fraternal ring, and always has a bone of contention or an axe to grind is not a bee-man, or much of a man of any kind. There seems to be something in the business from beginning to end which works benefit for all concerned.

To start at the beginning, the bees benefit the flowers which they visit. The process of mixing the pollen from one flower with that of others, I suppose we all understand. While the bees are thus working good for the seed of the plant, and eventually the harvester, they are also supplying the colony with a subsistence from its sac of honey and basket of pollen. After a time the little workers have some of this treasure to spare, and it is placed up-stairs in the sections or extracting combs. They are thereby benefitting him who has supplied them with a home best adapted to their needs.

After a time the honey is harvested and sold, and I am not sure that he who purchases the precious sheet is not the most benefited. I must not forget the supply-dealers; they, in the course of events, must also be greatly helped.

I have now something a little different which I would like to say.

I noticed several articles lately in the different journals regarding a larger package for comb honey. Now, if you ask for a show of hands, mine goes up in favor of this. But I would add another clause: When that section grows large enough to weigh about 2 pounds, then sell it in the only way which honey should be sold—by weight. As it now stands, the same amount of work, package, and foundation is required to produce a 12-ounce section as one weighing 16 ounces, and can not, therefore, be sold profitably by weight. The

cost of producing a larger section would not be in proportion to its size, and it could thus be sold profitably by weight.

I also believe the bees would start work much sooner in these larger sections than in the ones now used. They surely would sell as readily, so would we not get a crop of comb honey off our hands much sooner? I would like to hear what such men as Dr. Miller have to say on the subject.

H. A. SMITH.

Palermo, Ont., Canada.

Experience with Bees and Sparrows

After reading on page 907 (1905) what Ed Dee has to say about the sparrows and various other birds doing so much good, besides sticking up for our faithful, everlasting worker, the bee, I concluded to give some of my experience.

One day last summer, as I stood watching my bees, I noticed a sparrow alight on one of the hives and pick up a bee crawling on the hive-cover, then fly away, and after a few moments' absence it came back with several others, and these, besides two or three king-birds, were playing havoc among my laborers, so, of course, I decided to stand it no longer, and went in for my Marlin repeater shot-gun, but on returning I was surprised to see nothing of the birds. However, I went over towards the orchard, when lo, and behold! the sight there. They were at home eating June-bugs, which do much damage to this fruit-growing district by eating every leaf on the whole tree. But I would prove to my friends at once as to their value, and, taking aim, I brought down two sparrows and one king-bird, and drawing my knife, I opened their breasts and found in the two sparrows, 273 June-bugs, 13 bees, and some other small insects; in the king-bird were 3 bees and 63 June-bugs, 7 angle-worms, and a few half-digested insects like beetles.

This shows that their harm-doing qualities are indeed very limited in proportion to all the good done by them. Tell the young hunter (I mean your boy) never to molest these songsters, as this day we are enjoying the over-abundant big crop of fruit, vegetables and grain, also including the different varieties of flowers. All this would be practically useless to us if our faithful pets went back on us. "Spare the birds and such animals as do more good than harm," and think before you act.

H. PETZOLD.

Warren, Wis., Dec. 28, 1905.

More About the Sparrow

Like Mr. Stolley, I often read stuff which seems to require refutation, but what's the use! (Page 48.) But when a defense is made on behalf of the English sparrow, then truth can not be repeated too often.

It is not my desire to deny that the English sparrow does a little good once in awhile, but the harm which he does in destroying the nests of other birds, such as martins, blue-birds, wrens, etc., fully justifies the employment of any means tending towards his extermination.

Mr. Stolley says: "Of all the birds we have, the sparrow destroys more insects, worms and caterpillars than does any other kind of bird." Supposing that he had reference to the English sparrow, I would like to remind him that our Government issues a pamphlet on the sparrow and its relation to agriculture, which, if he is interested in the truth of the matter, I would advise him to obtain.

I had one of these pamphlets, but gave it away some time ago, so I have to draw on my memory for what I am to write. It describes perhaps 15 or more varieties of sparrows, all natives of America except one—the English or house-sparrow. All the native sparrows depend more or less upon insects for their living, and all destroy more injurious than beneficial insects; they eat but little grain, and consequently are not often seen in the neighborhood of houses or barns. Our friend, the English sparrow, however, is never found on meadows, etc., or any distance from houses or barns except in grain-fields; he lives on grain mostly, takes a few insects occasionally for a change of diet, and of these he prefers such as not only do no harm, but which are really beneficial in destroying other injurious in-

sects, etc. His young likewise receive a worm or insect now and then.

This is about the result of thousands of observations and experiments made in the field and the laboratory—not by university professors, but by experts who are maintained at Washington by the people of the United States, to find out the truth and tell it; and I would advise every friend of the English sparrow to obtain a copy of the pamphlet and be convinced.

Referring to thrushes, catbirds, etc., Mr. Stolley says these miscreants can not stand our Northern winters, and go South when they have had their fill, while the sparrow bravely faces the storm and cold. I would like to ask, What good does he do during this time? Any? And what good do these miscreants referred to do while they are here? Have they not helped to protect the fruit-patch against the insect pest? and, when with them a change in diet is in order, can we justly blame them for taking simply their own? No, Mr. Stolley, don't try to put our friend ahead of all other birds—it will do him more harm than good. AUG. F. KOCH.

Middle Amana, Iowa.

[We think the discussion of the sparrow has gone far enough in these columns, for a bee-paper. If it is necessary to say more, it will have to be done in a bird-paper, or elsewhere, so far as we are concerned.]

But it shows that bee-keepers are an observing lot of people, and have other animal friends besides the bees.—EDITOR.]

Colonies in Fine Condition

Bees have had 3 summer days; it has been very warm. Not a colony is lost thus far, but all are strong and in fine condition.

HENRY ALLEY.

Wenham, Mass., Jan. 23.

Bee-Keeping in Arkansas

The "old reliable" American Bee Journal continues to come regularly every Friday. May it continue so to come. May it live long and continue to spread out to every clime on the globe.

To-day bees are working on what I do not know, and they are bringing in pollen. They have a flight here nearly every week during winter. The coldest I ever saw it here was 15° below zero, and that was for only two days. Last winter it was cold in January and February; I lost one colony only, and the reason was the hive was made of 3/4-inch stuff, with no protection, and the bees were weak anyway. I winter them on the summer stands in single-walled hives. I take off the supers after the honey-flow, put on a quilt and top-board and contract the entrance. That's all, and I have no trouble in wintering. I never saw any foul brood, or heard of it in this part of the country. I never saw any honey-dew here on any kind of tree but hickory and black-gum; that goes to prove to me that it falls just as any other dew falls. The propolis is gathered from the sweet-gum here.

Why does it take a drone longer to hatch than a worker, and a worker longer than a queen? Does it take the same temperature for all of them to hatch? By select and careful breeding I have one colony of bees that work at night. Next season I expect to rear all queens from this one queen.

Arkansas has some mighty queer things. I have a golden queen that is 1 5/16 inches long—the largest queen I ever saw; and lay—oh, my! she simply piles out the eggs. She lays so fast I have to hatch the eggs in an incubator, and after they are hatched I rear the bees in a brooder! That relieves the nurse-bees of a lot of unnecessary labor, so they can be gathering honey.

Mr. Doolittle reports 63 pounds of honey in 3 days; Mr. Root, 43. One man in Texas reported 700 pounds from one colony in one season; another one, 1000 pounds. That beats Arkansas.

I handle my bees without gloves. I don't haul bees on a hay-rack, or pin down my veil.

Mr. Root freezes his queens to make drone-layers. Last winter, when my bees froze, they

did not thaw out. If they can be frozen and thawed out, it seems to me that would be the best way to winter them. Put them in honey-bags and hang them up and let them freeze, and, when spring comes, hang them out in the sun, and as they thaw they would return to their hives, and that would save feeding through the winter. Mr. Root might try it and see how it works. Poor is the rule that will not work both ways.

W. C. EDGEWORTH.

Pulaaki Co., Ark., Nov. 19, 1905.

CONVENTION NOTICE.

Washington.—The annual meeting of the Washington State Bee-Keepers' Association will be held in the old M. E. Church, on Third Street, North Yakima, Wash., Feb. 14, 15 and 16, 1906. An interesting program is assured. One feature will be the illustrated lectures on bee-keeping. Let all bee-keepers in different parts of the State attend and make this an interesting and valuable convention.

VIRGIL SIKES, Sec.

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Dear Sir:—I have tried almost everything in the smoker line; 3 in the last 3 years. In short if I want any more smokers your new style is good enough for me. I thank the editor of Review for what he said of it. Those remarks induced me to get mine. FRED FODNER.

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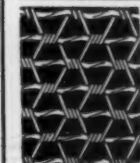
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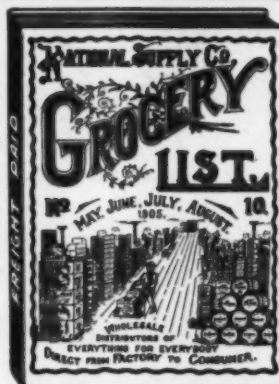
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Honey and Beeswax

CHICAGO, Jan. 8.—The market is steady with about the usual demand; the prices range from 14@15c for best grades of white comb honey. There is not an active demand for off grades, which usually sell at 1@3c per pound less. For extracted a steady demand exists for the best grades at 6@7c, but for sour or off flavors there is practically no sale.

R. A. BURNETT & CO.

TOLEDO, Oct. 17.—The honey market remains firm, with good demand, and prices the same as last quotations. Fancy white comb brings 15c; No. 1, 14c; fancy amber, 13c; buckwheat, 13c. Extracted, white clover, in barrels, 6@6½c; amber, in barrels, 5@5½c; in cans, 1c to 1½c higher. Beeswax in good demand, 26c cash, 28c trade.

GRIGGS BROS.

INDIANAPOLIS, Feb. 2.—Fancy white clover comb brings 16c; No. 1, 14c; demand exceeds the supply; fancy white western comb brings 14@15c; amber grades in poor demand at 12c. Best grade of extracted honey brings 8½@9c in 60-pound cans; amber, 6c. Good average beeswax sells here for \$33 per 100 pounds.

WALTER S. POWDER.

DENVER, Nov. 11.—No. 1 white comb honey, per case of 24 sections, \$3.35; No. 1 light amber, \$3.00; No. 2, \$2.50@3.00. Extracted honey, 6½@7 cts. per pound. Supply is light and we could make quick sales of consignments at above figures. We pay 24c for clean, yellow beeswax delivered here.

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NEW YORK, Feb. 19.—The demand is fairly good for better grades of white, and while the near by crop is fairly well cleaned up, new arrivals are now coming in from Cuba, besides several cars have been shipped on from California. We quote fancy white at 15c; No. 1, 13@14c; No. 2, 12c; amber, 11c; buckwheat, 10@11c. Extracted in fairly good demand, especially California, of which there is abundant supply. We quote white sage, 6½@7½c; light

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CINCINNATI, Jan. 20.—The honey market is quiet. We do not offer white clover extracted honey on account of its scarcity: instead offer a fancy water-white honey, equal to if not better than the white clover, in 60-lb. cans, two in a crate, at 7½@8½c; fancy light amber, 7½c; other grades of amber in barrels at 5½@6½c, according to the quality. Fancy comb honey, 16½c.

(Bee-keepers, please observe the above are our selling prices of honey, not what we are paying.)

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KANSAS CITY, Jan. 22.—The market here on honey is very dull now, as it always is this time of year; fancy white is selling at \$3.00 per case; 24-section and amber is selling at \$2.75. Extracted, 5½@6c. Beeswax, 25c per pound.

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CINCINNATI, Jan. 23.—The nice weather holds back the demand for comb honey. Crops seem to be exceedingly short and producers in the West keep the prices high. We quote as follows: Fancy water-white and No. 1 white clover, 14@16c; No. 2, 12@14c. Extracted seems to be more plentiful, and we quote same in barrels, 5½@5¾c; in cans, ¼c more; white clover, 7@8c. Beeswax, 28@30c.

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